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NOTES ON THE VALIDITY OF *HELIX* (*EPIPHRAGMOPHORA*) *OREGONENSIS* LEA.

BY HENRY M. EDSON.

[The article following is probably the last written by Mr. Edson whose untimely death was recorded in *THE NAUTILUS* for March, p. 132.]

This species seems to be recognizable, but has been buried for a long time in the synonymy of *Epiphragmophora dupetithouarsi* Desh. It was described by Dr. Lea¹ in 1836 from specimens collected by Mr. Nuttall in Oregon; after a careful reading of the original description and comparing it with Pfeiffer's description of *mormonum* I am convinced that *Epip. mormonum* is synonymous.

The type locality of *mormonum* was Mormon Island in the American River in Sacramento Co., Cal; it has also been collected at Redding, Shasta Co., by McGregor,² in Tuolumne Co., by Hemphill,³ and at Klamath,⁴ Oregon. Dr. Lea's description of *oregonensis* follows, "Shell subcarinate, thin, smooth, reddish-brown, double-banded on the carina, above slightly convex, below somewhat inflated; Habitat, Wahlamet near its junction with the Columbia River; Diam., 6, Length .4 of an inch."⁵

Dr. Lea also states that the specimen was immature so that of course the description would be somewhat defective. "That part of the

¹ Lea Obs. Vol. II, 1836, p. 100.

² Nautilus, XIII, 1899, p. 64.

³ Nautilus, XIII, 1899, p. 128.

⁴ Washington State Museum, fide H. Hannibal.

⁵ Diam. 15 mm., Alt. 9 mm.

specimen which has the epidermis presents in it, under the microscope, a remarkable waved appearance." He also says, "shell subcarinate," and his figure¹ shows it to be so. This feature alone would eliminate *Epip. dupetithouarsi*, for although the very young shells of *dupetithouarsi* are planulate the whorls are always rounded and especially in a shell of the size of Dr. Lea's specimen, which must have been over half grown. This taken with the subsequent collection of *mormonum* Pfr., at Klamath, Ore., which is close to the original locality of *oregonensis*, and the fact that Dr. Lea also described *Polygyra townsendiana*,² from the same locality at the same time, makes it pretty certain that *Helix mormonum* Pfr. was the shell Dr. Lea described, and not a specimen of *dupetithouarsi*; While Dr. Lea's description was based on an immature shell I consider it quite recognizable, as Nuttall was not likely to confuse his localities, and *dupetithouarsi* does not by any chance get so far north. Dr. Lea described *Helix oregonensis* in 1836; it thus has precedence of *mormonum* Pfr. by twenty-one years, as Dr. Pfeiffer did not describe *mormonum* until 1857.

The synonymy would stand as follows :

1836. *Helix oregonensis* Lea, Obs. II, p. 100, xxiii, fig. 85; Pfeiffer Mon. Hel. Viv., I, 1848, p. 428.

1857. *Helix mormonum* Pfr., Proc. Zool. Soc., 1857, p. 109; Mon. Hel. Viv., iv. p. 276; Fischer & Crosse, Moll. Mex. et Guat., 1870, p. 251.

1885. *Arionta mormonum*, W. G. Binney, Manual Amer. Land Shells, Bull. 28, U. S. N. M., p. 14.

1897. *Epiphragmophora mormonum* Pfr., Pils. Naut. xi, p. 48. Keep, West Coast Shells, 1911, p. 277.

NOTE.—As the type of *Helix oregonensis* Lea is now in the U. S. National Museum we requested Dr. Paul Bartsch to compare it with *mormonum* in view of the identification advocated by Mr. Edson. He writes as follows. "I have been looking over Mr. Edson's manuscript and also Lea's type of *Helix oregonensis*. I consider that *oregonensis* has nothing to do with *dupetithouarsi* Desh. The latter species in the young stage has a well rounded periphery, while in *oregonensis* we have a strong keel at the junction of the dark and

¹ Lea Obs. II, 1836, pl. xxiii, fig. 85.

² Lea Obs., II, 1836, p. 99.

light band. The anterior light band is about as wide as the dark. The posterior one is scarcely indicated, being represented by a mere line. The nepionic whorls of the two shells are also different: that of *oregonensis* being papillose while that of the *dupetithouarsi* is wrinkled. The young *oregonensis* is also much larger considering the same number of whorls in the two species. Then too, the sculpture of the adult whorls is quite different; in *oregonensis* we have a surface which is covered by a crinkly epidermis, the crinkles placed obliquely. The lines of growth are irregular and not well marked, while in the *dupetithouarsi* we have regularly impressed lines and none of the crinkled epidermis, the latter being smooth; *dupetithouarsi* has a well-rounded spire while in *oregonensis* it is flattened, etc. I believe that *oregonensis* comes nearer to the group of *E. mormonum* than *E. dupetithouarsi*. You have the types of *cala* and *buttoni*, so I will leave the comparison of them with you."

It seems from the above that we will have to write *oregonensis* in place of *mormonum*, but whether Lea's name applies to the typical middle Californian *mormonum* or to one of the described subspecies remains in doubt. Adult specimens from Oregon are needed to settle this question.

H. A. P.

LAMPSILIS VENTRICOSA (BARNES) IN THE UPPER POTOMAC DRAINAGE.

BY A. E. ORTMANN.

Some time ago the writer reported (Mem. Carnegie Mus., 2, 1906, p. 373) that a western species of crawfish, *Cambarus obscurus* Hagen, is found in the Potomac drainage, in Wills Creek, at Ellerslie, Allegany Co., Md., and Hyndman, Bedford Co., Pa. This fact was discussed on p. 445 (l. c.), and explained in general terms as an "artificial introduction by human agency." I may add that this crawfish apparently has increased in numbers since its first discovery (August 10, 1904, and May 8, 1905), for on September 7, 1909, I found it very abundantly at Hyndman (for about a mile in the creek above the tannery). And further, on May 6, 1912, this species was seen in the South Branch Potomac at Romney, Hampshire Co., W. Va. Although only a cast-off shell was found, this was of a male of the first form, and positively established the presence of this species at this locality.